

**Amendments to the Claims:**

This listing of the claims will replace all prior versions, and listings, of claims in the application:

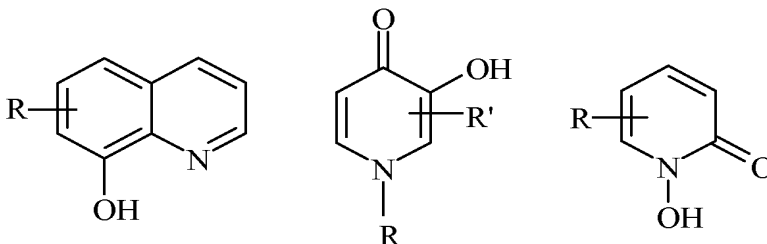
**Listing of Claims:**

1 (Currently Amended). A compound comprising a moiety having an iron chelator function and, in addition, a moiety~~residue~~ selected from the group consisting of a moiety~~residue~~ that imparts a neuroprotective function to the compound, a moiety~~residue~~ that imparts combined antiapoptotic and neuroprotective function to the compound, or both.

2 (Currently Amended). A compound according to claim 1 wherein said moiety~~residue~~ imparting combined antiapoptotic and neuroprotective functions is a propargyl group.

3 (Currently Amended). A compound according to claim 1 wherein the iron chelator function is provided by a moiety~~residue~~ selected from the group consisting of a 8-hydroxyquinoline moiety~~residue~~, a hydroxamate moiety~~residue~~, and a pyridinone moiety~~residue~~.

4 (Currently Amended). A compound according to claim 3 wherein the iron chelator function is a moiety~~residue~~ of 8-hydroxy-5-quinoline, a 3-hydroxypyridin-4-one or 1-hydroxypyridin-2-one of the formulas:



wherein R represents the group carrying the neuroprotective function and/or combined neuroprotective and antiapoptotic functions that may be linked at position 5, 6 or 7 of the quinoline ring, at position 1, 2, 5 or 6 of the 3-hydroxy-4-pyridinone wherein R' is C1-C4 lower alkyl, or at position 4 or 5 of the 1-hydroxy-2-pyridinone ring.

5 (Original). A compound according to claim 4 wherein the iron chelating function is provided by the 8-hydroxy-5-quinolinylmethylene group.

6 (Withdrawn). A compound according to claim 4 wherein the iron chelating function is provided by a 2-methyl-3-hydroxy-4-pyridinone group.

7 (Withdrawn/Currently Amended). A compound according to claim 1 wherein the ~~moiety-residue~~ imparting a neuroprotective function to the compound is selected from the group consisting of a neuroprotective peptide, a neuroprotective analog and a neuroprotective fragment thereof.

8 (Withdrawn). A compound according to claim 7 wherein said neuroprotective peptide is vasoactive intestinal peptide (VIP), gonadotropin-releasing hormone (GnRH), Substance P or enkephalin.

9 (Withdrawn). A compound according to claim 8 wherein said neuroprotective peptide is an analog of VIP, GnRH, Substance P or enkephalin or fragment thereof in which one amino acid residue is replaced by a L- or D-cysteine residue.

10 (Withdrawn). A compound according to claim 9 wherein said analog is selected from the group consisting of the VIP fragment analogs of SEQ ID NO:2 that may bear a stearyl or a Fmoc group at the amino terminal, the GnRH analogs of SEQ ID NO:4 and SEQ ID NO:5, the Substance P analogs of SEQ ID NO:7 and SEQ ID NO:8, and the enkephalin analogs of SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, and SEQ ID NO:14.

11 (Withdrawn/Currently Amended). A compound according to claim 1 wherein the ~~moiety~~residue imparting a neuroprotective function to the compound is a L- or D-cysteine or L- or D-alanine residue.

12 (Withdrawn). A compound according to claim 1 comprising a 8-hydroxy-5-quinoliny1 iron-chelating function and a residue of a neuroprotective peptide, a neuroprotective analog or a neuroprotective fragment thereof as the neuroprotective function.

13 (Withdrawn). A compound according to claim 12 wherein said neuroprotective peptide is vasoactive intestinal peptide (VIP), gonadotropin-releasing hormone (GnRH), Substance P or enkephalin.

14 (Withdrawn). A compound according to claim 13 wherein said neuroprotective peptide is an analog of VIP, GnRH, Substance P or enkephalin or a fragment thereof in which one amino acid residue is replaced by a L- or D-cysteine residue.

15 (Withdrawn). A compound according to claim 14 wherein said analog is selected from the group consisting of the VIP fragment analogs of SEQ ID NO:2 that may bear a stearyl or a Fmoc group at the amino terminal, the GnRH analogs of SEQ ID NO:4 and SEQ ID NO:5, the Substance P analogs of SEQ ID NO:7 and SEQ ID NO:8, and the enkephalin analogs of SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, and SEQ ID NO:14.

16 (Withdrawn). A compound according to claim 12 further comprising a propargyl group.

17 (Withdrawn). A compound according to claim 1 comprising a 8-hydroxy-5-quinolinyl iron-chelating function and a residue of L- or D-cysteine or L- or D-alanine.

18 (Withdrawn). A compound according to claim 17 further comprising a propargyl group.

19 (Original). A compound according to claim 1 comprising a 8-hydroxy-5-quinolinyl iron-chelating function and a propargyl group.

20 (Original). A compound according to claim 19 wherein said 8-hydroxy-5-quinolinyl is the 8-hydroxy-5-quinolinylmethylene radical that is linked to the propargyl group via -N- atom(s).

21 (Withdrawn/Currently Amended). A compound according to claim 20 wherein said 8-hydroxy-5-quinolinylmethylene radical is linked to the propargyl group via a linker selected from the group consisting of

ethylenediamine, piperazine and 1,3,5-perhydrotriazine  
moiety~~residue~~.

22 (Withdrawn/Currently Amended). A compound according to claim 21 wherein said 8-hydroxy-5-quinolinylmethylene radical is linked to the propargyl group via a piperazine moiety~~residue~~.

23 (Withdrawn). A compound according to claim 20 wherein said 8-hydroxy-5-quinolinylmethylene radical is linked to the propargyl group via the -NH- group of a L- or D-alanine or L- or D-cysteine residue or an ester thereof.

24 (Withdrawn). A compound according to claim 1 comprising a hydroxamate iron-chelating function and a residue of a neuroprotective peptide, a neuroprotective analog or a neuroprotective fragment thereof as the neuroprotective function.

25 (Withdrawn). A compound according to claim 24 wherein said neuroprotective peptide is vasoactive intestinal peptide (VIP), gonadotropin-releasing hormone (GnRH), Substance P or enkephalin.

26 (Withdrawn). A compound according to claim 25 wherein said neuroprotective peptide is an analog of VIP, GnRH, Substance P or enkephalin or a fragment thereof in which one amino acid residue is replaced by a L- or D-cysteine residue.

27 (Withdrawn). A compound according to claim 26 wherein said analog is selected from the group consisting of

the VIP fragment analogs of SEQ ID NO:2 that may bear a stearyl or a Fmoc group at the amino terminal, the GnRH analogs of SEQ ID NO:4 and SEQ ID NO:5, the Substance P analogs of SEQ ID NO:7 and SEQ ID NO:8, and the enkephalin analogs of SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, and SEQ ID NO:14.

28 (Withdrawn) A compound according to claim 24 further comprising a propargyl group.

29 (Withdrawn). A compound according to claim 1 comprising a N-ethylene-2-hydroxy-3-methyl-pyridin-4-one iron-chelating function, and a residue of a neuroprotective peptide, a neuroprotective analog or a neuroprotective fragment thereof as the neuroprotective function.

30 (Withdrawn). A compound according to claim 29 wherein said neuroprotective peptide is vasoactive intestinal peptide (VIP), gonadotropin-releasing hormone (GnRH), Substance P or enkephalin.

31 (Withdrawn). A compound according to claim 30 wherein said neuroprotective peptide is an analog of VIP, GnRH, Substance P or enkephalin or a fragment thereof in which one amino acid residue is replaced by a L- or D-cysteine residue.

32 (Withdrawn). A compound according to claim 31 wherein said analog is selected from the group consisting of the VIP fragment analogs of SEQ ID NO:2 that may bear a stearyl or a Fmoc group at the amino terminal, the GnRH analogs of SEQ ID NO:4 and SEQ ID NO:5, the Substance P

analogs of SEQ ID NO:7 and SEQ ID NO:8, and the enkephalin analogs of SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, and SEQ ID NO:14.

33 (Withdrawn) A compound according to claim 29 further comprising a propargyl group.

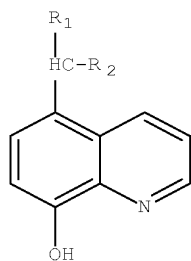
34 (Withdrawn). A compound according to claim 1 comprising a N-ethylene-2-hydroxy-3-methyl-pyridin-4-one iron-chelating function, a residue of L- or D-cysteine or L- or D-alanine and a propargyl group.

35 (Withdrawn). A compound according to claim 1 comprising a hydroxamate iron-chelating function and a propargyl group.

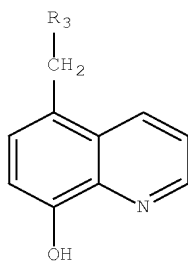
36 (Withdrawn). A compound according to claim 35 wherein said hydroxamate is a  $\text{CONHOH}-(\text{CH}_2)_2-$  radical that is linked to the propargyl group via -N- atom(s).

37 (Withdrawn). A compound according to claim 35 wherein said hydroxamate radical is linked to the propargyl group via a piperazine ring.

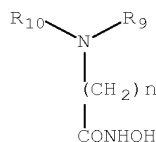
38 (Previously Presented). A compound according to claim 3 of the formula I to IV or a pharmaceutically acceptable salt thereof:



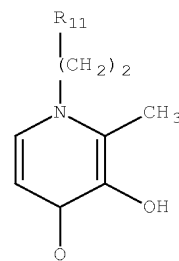
I



II



III



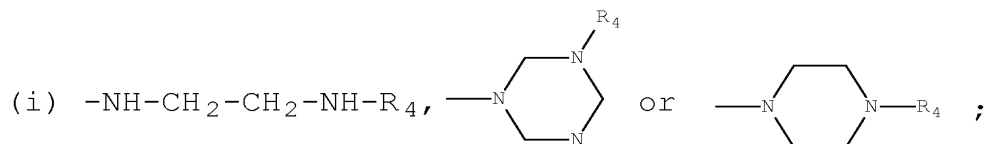
IV

wherein

R<sub>1</sub> is a residue of an analog of a neuroprotective peptide containing a cysteine residue that is linked to the C atom via the -S- atom of the L- or D-Cys residue, and wherein the amino terminal of the peptide is unsubstituted or substituted by a hydrophobic group;

R<sub>2</sub> is H or -NH-X;

R<sub>3</sub> is a group selected from the group consisting of



(ii) -CR<sub>5</sub>R<sub>6</sub>R<sub>7</sub>; (iii) -N(CH<sub>3</sub>)-X; (iv) -N(R<sub>8</sub>)-CH(CH<sub>2</sub>SH)COOC<sub>2</sub>H<sub>5</sub>;

(v) -N(R<sub>8</sub>)-CH<sub>2</sub>-COOCH<sub>2</sub>C<sub>6</sub>H<sub>5</sub>; and (vi) -S-CH<sub>2</sub>-CH(COOH)-NHR<sub>8</sub>';

R<sub>4</sub> is a group selected from the group consisting of (i) X; (ii) COOC<sub>2</sub>H<sub>5</sub>; (iii) (CH<sub>2</sub>)<sub>2</sub>-O-R<sub>8</sub>; and (iv) -COO-(CH<sub>2</sub>)<sub>2</sub>-NH-R<sub>8</sub>;

R<sub>5</sub> is H, C<sub>1</sub>- C<sub>4</sub> lower alkyl or COOC<sub>2</sub>H<sub>5</sub>;

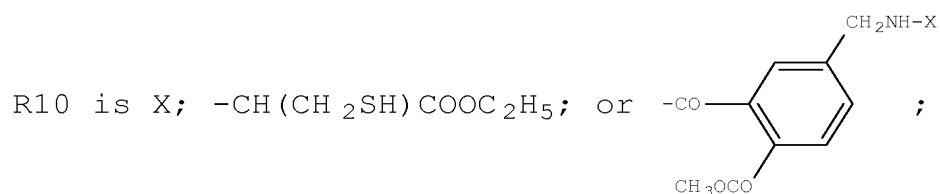
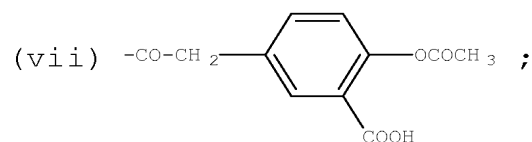
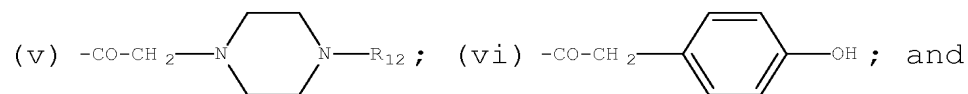
R<sub>6</sub> is H, COOH, COO<sup>-</sup> or COOC<sub>2</sub>H<sub>5</sub>;

R<sub>7</sub> is selected from the group consisting of (i) -NH-R<sub>8</sub>; (ii) -NH<sub>3</sub><sup>+</sup>; (iii) -NH-COCH<sub>3</sub>, (iv) -NH-NH-R<sub>8</sub>, and (v) -NH-NH-CO-CH(CH<sub>2</sub>OH)-NH-R<sub>8</sub>;

R<sub>8</sub> is H or X; R'<sub>8</sub> is H, X or Fmoc;

R<sub>9</sub> is selected from the group consisting of (i) H; (ii) -CO-CH<sub>2</sub>-R<sub>1</sub>; (iii) -CH<sub>2</sub>-COOCH<sub>2</sub>C<sub>6</sub>H<sub>5</sub>; (iv) -CH(CH<sub>2</sub>SH)COOC<sub>2</sub>H<sub>5</sub>;

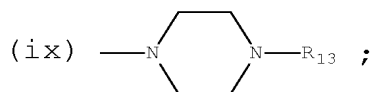




$n$  is an integer from 1 to 6;

$\text{R}_{11}$  is a group selected from the group consisting of

- (i)  $-\text{S}-\text{CH}_2-\text{CH}(\text{COOH})-\text{NH-X}$ ;
- (ii)  $-\text{N(X)}-\text{CH}_2\text{COO}-\text{CH}_2-\text{C}_6\text{H}_5$ ;
- (iii)  $-\text{N}(\text{CH}_3)-\text{X}$ ;
- (iv)  $-\text{N(X)}-\text{CH}(\text{CH}_2\text{SH})\text{COOC}_2\text{H}_5$ ;
- (v)  $-\text{CH}_2-\text{NH}-\text{NH}-\text{CO}-\text{CH}(\text{CH}_2\text{OH})-\text{NH-X}$ ;
- (vi)  $-\text{C}(\text{CH}_3)(\text{COOH})-\text{NH}-\text{NH-X}$ ;
- (vii)  $-\text{CH}(\text{COOH})-\text{NH-X}$ ;
- (viii)  $-\text{CH}(\text{COOC}_2\text{H}_5)-\text{NH-X}$ ; and

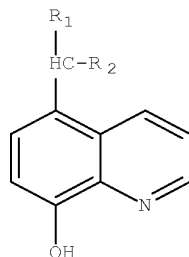


$\text{R}_{12}$  is  $\text{X}$ ,  $\text{C}_1-\text{C}_4$  lower alkyl, preferably  $\text{CH}_3$ ,  $\text{COOC}_2\text{H}_5$  or  $-(\text{CH}_2)_2-\text{OH}$ ;

$\text{R}_{13}$  is  $\text{X}$ ,  $-(\text{CH}_2)_2-\text{OX}$ -, or  $-\text{COO}-(\text{CH}_2)_2-\text{NH-X}$ ; and

$\text{X}$  is a propargyl group, but excluding the compound 5-[4-(2-hydroxyethyl)piperazin-1-ylmethyl]-8-hydroxyquinoline.

39 (Withdrawn). A compound according to claim 38 of the formula I or a pharmaceutically acceptable salt thereof of the formula:



wherein

R<sub>1</sub> is a residue of an analog of a neuroprotective peptide or a fragment thereof containing a L- or D-cysteine residue that is linked to the C atom via the -S- atom of the Cys residue, and wherein the amino terminal of the peptide is unsubstituted or substituted by a hydrophobic group;

R<sub>2</sub> is H or -NH-X; and

X is a propargyl group.

40 (Withdrawn). A compound of the formula I according to claim 39 wherein R<sub>1</sub> is an analog of a neuroprotective peptide selected from the group consisting of vasoactive intestinal peptide (VIP), gonadotropin-releasing hormone (GnRH), Substance P and enkephalin or a fragment thereof in which one amino acid residue has been replaced by a L- or D-cysteine residue and R<sub>2</sub> is H.

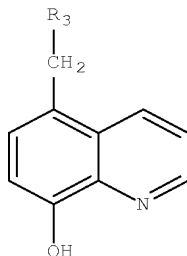
41 (Withdrawn). A compound according to claim 40 wherein said analog is selected from the group consisting of the VIP fragment analog of SEQ ID NO:2 bearing a stearyl (identified herein as compound M6, Appendix II) or a Fmoc group (M7, Appendix II) at the amino terminal, the residue of a GnRH analog of SEQ ID NO:4 (M8, Appendix II) or SEQ ID NO:5 (M22, Appendix II), the residue of a Substance P analog of SEQ ID NO:7 (M27, Appendix II) or SEQ ID NO:8 (M28, Appendix II), and the residue of an enkephalin analog of SEQ ID NO:11 (M19,

Appendix II), SEQ ID NO:12 (M21, Appendix II), SEQ ID NO:13 (M18, Appendix II), and SEQ ID NO:14 (M20, Appendix II).

42 (Withdrawn). A compound of the formula I according to claim 39 wherein R<sub>1</sub> is an analog of a neuroprotective peptide selected from the group consisting of vasoactive intestinal peptide (VIP), gonadotropin-releasing hormone (GnRH), Substance P or enkephalin or a fragment thereof in which one amino acid residue has been replaced by a L- or D-cysteine residue and R<sub>2</sub> is -NH-propargyl.

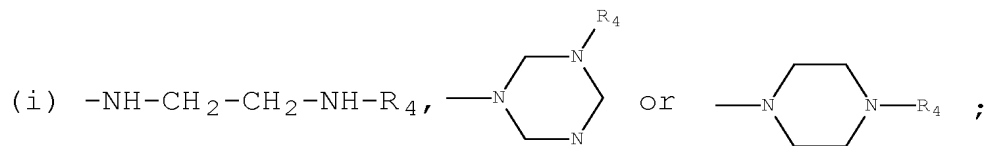
43 (Withdrawn). A compound according to claim 42 wherein said analog is selected from the group consisting of the residue of the VIP fragment analog of SEQ ID NO:2 bearing a stearyl (M6A, Appendix I) or a Fmoc group (M7A, Appendix I) at the amino terminal, the residue of a GnRH analog of SEQ ID NO:4 (M8A) or SEQ ID NO:5 (M22A, Appendix I), the residue of a Substance P analog of SEQ ID NO:7 (M27A, Appendix I) or SEQ ID NO:8 (M28A, Appendix I), and the residue of an enkephalin analog of SEQ ID NO:11 (M19A, Appendix I), SEQ ID NO:12 (M21A, Appendix I), SEQ ID NO:13 (M18A, Appendix I), and SEQ ID NO:14 (M20A, Appendix I).

44 (Previously Presented). A compound according to claim 38 of the formula II or a pharmaceutically acceptable salt thereof of the formula:



wherein

R<sub>3</sub> is a group selected from the group consisting of



(ii)  $-\text{CR}_5\text{R}_6\text{R}_7$ ; (iii)  $-\text{N}(\text{CH}_3)-\text{X}$ ; (iv)  $-\text{N}(\text{R}_8)-\text{CH}(\text{CH}_2\text{SH})\text{COOC}_2\text{H}_5$ ;

(v)  $-\text{N}(\text{R}_8)-\text{CH}_2-\text{COOCH}_2\text{C}_6\text{H}_5$ ; and (vi)  $-\text{S}-\text{CH}_2-\text{CH}(\text{COOH})-\text{NHR}_8'$ ;

R<sub>4</sub> is selected from the group consisting of (i) X;

(ii)  $\text{COOC}_2\text{H}_5$ ;

(iii)  $(\text{CH}_2)_2-\text{O}-\text{R}_8$ ; and (iv)  $-\text{COO}-(\text{CH}_2)_2-\text{NH}-\text{R}_8$ ;

R<sub>5</sub> is H, CH<sub>3</sub> or  $\text{COOC}_2\text{H}_5$ ;

R<sub>6</sub> is H, COOH,  $\text{COO}^-$  or  $\text{COOC}_2\text{H}_5$ ;

R<sub>7</sub> is selected from the group consisting of

(i)  $-\text{NH}-\text{R}_8$ ; (ii)  $-\text{NH}_3^+$ ; (iii)  $-\text{NH}-\text{COCH}_3$ ; (iv)  $-\text{NH}-\text{NH}-\text{R}_8$ ;

and (v)  $-\text{NH}-\text{NH}-\text{CO}-\text{CH}(\text{CH}_2\text{OH})-\text{NH}-\text{R}_8$ ;

R<sub>8</sub> is H or X, and R'<sub>8</sub> is H, X, or Fmoc; and

X is a propargyl group, but excluding the compound  
5-[4-(2-hydroxyethyl)piperazin-1-ylmethyl]-8-hydroxy-  
quinoline.

45 (Withdrawn). A compound of formula II according to claim 44 wherein R<sub>3</sub> is a piperazine ring, but excluding the compound wherein R<sub>4</sub> is  $-(\text{CH}_2)_2-\text{OH}$ .

46 (Withdrawn). A compound of formula II according to claim 44 wherein R<sub>3</sub> is a piperazine ring and R<sub>4</sub> is  $-\text{COOC}_2\text{H}_5$ , as represented by the compound herein designated HLA16 (Appendix IV).

47 (Withdrawn). A compound of formula II according to claim 44 wherein R<sub>3</sub> is a piperazine ring and R<sub>4</sub> is a

propargyl group, as represented by the compound herein designated HLA20 (Appendix III).

48 (Withdrawn). A compound of formula II according to claim 44 wherein  $R_3$  is a piperazine ring as represented by the compounds herein designated HLA16a and M17 (Appendix III).

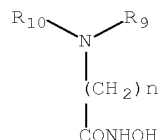
49 (Withdrawn). A compound of formula II according to claim 44 wherein  $R_3$  is  $-S-CH_2-CH(COOH)-NHR_8'$  and  $R_8'$  is H, as represented by the compounds herein designated D-HQ-CysOH (M11, Appendix II) and L-HQ-CysOH (M12, Appendix II), or  $R_8'$  is propargyl, as represented by the compounds herein designated D-(HQ-Pr)-CysOH (M11a, Appendix III) and L-(HQ-Pr)-CysOH (M12a, Appendix III), or  $R_8'$  is Fmoc, as represented by the compounds herein designated M11B and M12B (Appendix IV).

50 (Withdrawn). A compound of formula II according to claim 44 wherein  $R_3$  is a group  $-CR_5R_6R_7$ , wherein  $R_5$  is H,  $R_6$  is COOH,  $R_7$  is  $-NH-R_8$ , and  $R_8$  is H, as represented by the compounds herein designated D-HQ-Ala (M9, Appendix IV) and L-HQ-Ala (M10, Appendix IV); or  $R_8$  is propargyl, as represented by the compounds herein designated D-(HQ-Pr)-Ala (M9a, Appendix III) and L-(HQ-Pr)-Ala (M10a, Appendix III); or  $R_5$  is H,  $R_6$  is  $COO^-$  and  $R_7$  is  $-NH_3^+$ , as represented by the compound herein designated HQ-Ala (HLM8, Appendix IV); or  $R_5$  is H,  $R_6$  is  $COOC_2H_5$  and  $R_7$  is  $-NH_2$ , as represented by the compound herein designated HQ-AlaEt (HLM9, Appendix IV); or  $R_5$  and  $R_6$  are both  $COOC_2H_5$ , and  $R_7$  is  $-NH-COCH_3$ , as represented by the compound herein designated HLM7 (Appendix IV); or  $R_5$  is H,  $R_6$  is  $COOC_2H_5$  and  $R_7$  is  $-NH$ -propargyl, as represented by the compound herein designated M31 (Appendix III).

51 (Withdrawn). A compound of formula II according to claim 44 wherein  $R_3$  is a group  $-NR_8-CH(CH_2SH)COOC_2H_5$ , wherein  $R_8$  is H, as represented by the compound herein designated M32 (Appendix IV), or  $R_8$  is propargyl, as represented by the compound herein designated M33 (Appendix III).

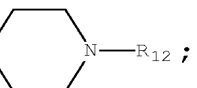
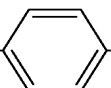
52 (Original). A compound of formula II according to claim 44 wherein  $R_3$  is a group  $-N(CH_3)$ -propargyl, as represented by the compound herein designated M30 (Appendix III).

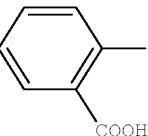
53 (Withdrawn). A compound according to claim 38 of formula III or a pharmaceutically acceptable salt thereof of the formula:

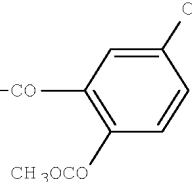


wherein

$R_9$  is selected from the group consisting of (i) H; (ii)  $-CO-CH_2-R_1$ ; (iii)  $-CH_2-COOC_2H_5$ ; (iv)  $-CH(CH_2SH)COOC_2H_5$ ;

(v)  $-CO-CH_2-$    $-R_{12}$ ; (vi)  $-CO-CH_2-$    $-OH$ ; and

(vii)  $-CO-CH_2-$    $-OCOCH_3$  ;

$R_{10}$  is X;  $-CH(CH_2SH)COOC_2H_5$ ; or  $-CO-$    $-CH_2NH-X$  ;

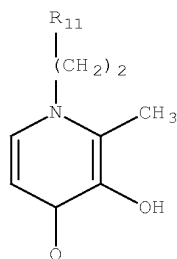
n is an integer from 1 to 6;  
R<sub>12</sub> is X, C<sub>1</sub>-C<sub>4</sub> lower alkyl, COOC<sub>2</sub>H<sub>5</sub>, or -(CH<sub>2</sub>)<sub>2</sub>-OH;  
and X is a propargyl group.

54 (Withdrawn). A compound of formula III according to claim 53 wherein R<sub>9</sub> is -CO-CH<sub>2</sub>-R<sub>1</sub>, wherein R<sub>1</sub> is the residue of an analog of a neuroprotective peptide or a fragment thereof containing a L- or D-Cys residue.

55 (Withdrawn). A compound of formula III according to claim 54 wherein said analog is selected from the group consisting of the residue of a VIP fragment analog of SEQ ID NO:2 bearing a stearyl (M6B, Appendix V) or a Fmoc group (M7B, Appendix V) at the amino terminal, the residue of a GnRH analog of SEQ ID NO:4 (M8B, Appendix V) or SEQ ID NO:5 (M22B, Appendix V), the residue of a Substance P analog of SEQ ID NO:7 (M27B, Appendix V) or SEQ ID NO:8 (M28B, Appendix V), and the residue of an enkephalin analog of SEQ ID NO:11 (M19B, Appendix V), SEQ ID NO:12 (M21B, Appendix V), SEQ ID NO:13 (M18B, Appendix V), and SEQ ID NO:14 (M20B, Appendix V).

56 (Withdrawn). A compound of formula III according to claim 53 as represented by the compounds herein designated M35, M36, M37, M38, M39, M40, M41, M42, M43, M44, M45 and M46 (Appendix V).

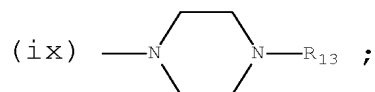
57 (Withdrawn). A compound according to claim 38 of formula IV or a pharmaceutically acceptable salt thereof of the formula:



wherein

$R_{11}$  is selected from the group consisting of

- (i)  $-S-CH_2-CH(COOH)-NH-X$ ;
- (ii)  $-N(X)-CH_2COO-CH_2-C_6H_5$ ;
- (iii)  $-N(CH_3)-X$ ;
- (iv)  $-N(X)-CH(CH_2SH)COOC_2H_5$ ;
- (v)  $-CH_2-NH-NH-CO-CH(CH_2OH)-NH-X$ ;
- (vi)  $-C(CH_3)(COOH)-NH-NH-X$ ;
- (vii)  $-CH(COOH)-NH-X$ ;
- (viii)  $-CH(COOC_2H_5)-NH-X$ ; and



$R_{13}$  is  $X$ ,  $-(CH_2)_2-OX$ , or  $-COO-(CH_2)_2-NH-X$ ; and

$X$  is a propargyl group.

58 (Withdrawn). A compound of formula IV according to claim 57 as represented by the compounds herein designated M9b, M11b, M12b, M13b, M15b, HLA16b, M17a, HLA20a, M30a, M31a, M33a, and M34b (Appendix VI).

59 (Previously Presented). A compound of formula I, II, III or IV according to claim 38 as depicted in the Appendices I to VI herein, but excluding the compound designated VK-28 in Appendix IV.



60 (Previously presented). A pharmaceutical composition comprising a compound according to claim 1 or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier.

Claims 61- 78 (Cancelled).

79 (Withdrawn). A method for iron chelation therapy which comprises administering to an individual in need thereof an effective amount of a compound of claim 1.

80 (Withdrawn). The method according to claim 79 for treatment and/or prevention of a disease, disorder or condition associated with iron overload and oxidative stress.

81 (Withdrawn). The method according to claim 79 for the prevention and/or treatment of a neurodegenerative disease, condition or disorder.

82 (Withdrawn). The method according to claim 79 for prevention and/or treatment of cancer, optionally in combination with one or more chemotherapeutic agents.

83 (Withdrawn). The method according to claim 79 for the prevention and/or treatment of iron overload in hemochromatosis or thalassemia patients.

84 (Withdrawn). The method according to claim 79 for prevention and/or treatment of a cardiovascular disease.

85 (Withdrawn). The method according to claim 79 for prevention and/or treatment of diabetes.

86 (Withdrawn). The method according to claim 79 for prevention and/or treatment of an inflammatory disorder.

87 (Withdrawn). The method according to claim 86 wherein the inflammatory disorder is a joint inflammatory disorder, particularly rheumatoid arthritis, inflammatory bowel disease (IBD) or psoriasis.

88 (Withdrawn). The method according to claim 79 for prevention and/or treatment of anthracycline cardiotoxicity in an individual undergoing treatment with anthracycline neoplastic drugs.

89 (Withdrawn). The method according to claim 79 for prevention and/or treatment of a viral, protozoal or yeast infection.

90 (Withdrawn). The method according to claim 89 wherein said viral infection is a retroviral infection.

91 (Withdrawn). The method according to claim 89 wherein said protozoal infection is malaria caused by *Plasmodium falciparum*, and said yeast infection is a *Candida albicans* infection.

92 (Withdrawn). The method according to claim 79 for retarding ageing and/or improving the ageing process in a healthy individual or an individual suffering from an age-related disease.

93 (Withdrawn). The method according to claim 79 for prevention and/or treatment of skin ageing and/or skin damage associated with ageing.

94 (Withdrawn). The method according to claim 79 for prevention and/or treatment of skin damage associated with exposure to sunlight and/or UV light.

95 (Cancelled).

96 (Withdrawn). A method for iron chelation therapy which comprises administering to an individual in need thereof an effective amount the compound 5-[4-(2-hydroxyethyl)piperazin-1-ylmethyl]-8-hydroxyquinoline (herein identified as VK-28, Appendix IV) for treatment and/or prevention of a disease, disorder or condition associated with iron overload and oxidative stress, excluding the prevention and/or treatment of a neurodegenerative disease, condition or disorder.

97 (Withdrawn). A cosmetic composition for topical application for prevention and/or treatment of skin ageing and/or skin damage associated with ageing and/or exposure to sunlight and/or UV light comprising the compound 5-[4-(2-hydroxyethyl)piperazin-1-ylmethyl]-8-hydroxyquinoline (herein identified as VK-28, Appendix IV).

98 (Withdrawn). A method for preservation of organs intended for transplantation such as heart, lung or kidney which comprises treating said organ ex-vivo with the compound 5-[4-(2-hydroxyethyl)piperazin-1-ylmethyl]-8-hydroxyquinoline (herein identified as VK-28, Appendix IV).

99 (Withdrawn). A compound according to claim 13 further comprising a propargyl group.

100 (Withdrawn). A compound according to claim 14 further comprising a propargyl group.

101 (Withdrawn). A compound according to claim 15 further comprising a propargyl group.

102 (Withdrawn). A compound according to claim 25 further comprising a propargyl group.

103 (Withdrawn). A compound according to claim 26 further comprising a propargyl group.

104 (Withdrawn). A compound according to claim 27 further comprising a propargyl group.

105 (Withdrawn). A compound according to claim 30 further comprising a propargyl group.

106 (Withdrawn). A compound according to claim 31 further comprising a propargyl group.

107 (Withdrawn). A compound according to claim 32 further comprising a propargyl group.

108 (Withdrawn). A compound according to claim 36 wherein said hydroxamate radical is linked to the propargyl group via a piperazine ring.

109 (Previously Presented). A pharmaceutical composition comprising a compound according to claim 38 or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier.

110 (Withdrawn). A method for iron chelation therapy which comprises administering to an individual in need thereof an effective amount of a compound of claim 38.

111 (Withdrawn). The method according to claim 110 for treatment and/or prevention of a disease, disorder or condition associated with iron overload and oxidative stress.

112 (Withdrawn). The method according to claim 110 for the prevention and/or treatment of a neurodegenerative disease, condition or disorder.

113 (Withdrawn). The method according to claim 110 for prevention and/or treatment of cancer, optionally in combination with one or more chemotherapeutic agents.

114 (Withdrawn). The method according to claim 110 for the prevention and/or treatment of iron overload in hemochromatosis or thalassemia patients.

115 (Withdrawn). The method according to claim 110 for prevention and/or treatment of a cardiovascular disease.

116 (Withdrawn). The method according to claim 115 for prevention of damage associated with free radical generation in reperfusion injury.

117 (Withdrawn). The method according to claim 84 for prevention of damage associated with free radical generation in reperfusion injury.

118 (Withdrawn). The method according to claim 110 for prevention and/or treatment of diabetes.

119 (Withdrawn). The method according to claim 110 for prevention and/or treatment of an inflammatory disorder.

120 (Withdrawn). The method according to claim 119 wherein the inflammatory disorder is a joint inflammatory disorder, particularly rheumatoid arthritis, inflammatory bowel disease (IBD) or psoriasis.

121 (Withdrawn). The method according to claim 110 for prevention and/or treatment of anthracycline cardiotoxicity in an individual undergoing treatment with anthracycline neoplastic drugs.

122 (Withdrawn). The method according to claim 110 for prevention and/or treatment of a viral, protozoal or yeast infection.

123 (Withdrawn). The method according to claim 122 wherein said viral infection is HIV-1, and the compound is administered to an AIDS patient, optionally in combination with antiviral agents.

124 (Withdrawn). The method according to claim 122 wherein said protozoal infection is malaria caused by

Plasmodium falciparum, and said yeast infection is a Candida albicans infection.

125 (Previously Presented). The method according to claim 110 for retarding ageing and/or improving the ageing process in a healthy individual or an individual suffering from an age-related disease.

126 (Withdrawn). The method according to claim 110 for prevention and/or treatment of skin ageing and/or skin damage associated with ageing.

127 (Previously Presented). The method according to claim 110 for prevention and/or treatment of skin damage associated with exposure to sunlight and/or UV light.

128 (Withdrawn). The method according to claim 90 wherein said viral infection is HIV-1, and the compound is administered to an AIDS patient, optionally in combination with antiviral agents.

129 (Withdrawn). A method for prevention and/or treatment of a neurodegenerative or cerebrovascular disease, condition or disorder, which comprises administering to an individual in need thereof an effective amount of a compound of claim 1.

130 (Withdrawn). The method according to claim 129, wherein said neurodegenerative disease is Parkinson's disease or Alzheimer's disease, and said compound is not the compound 5-[4-(2-hydroxyethyl)piperazin-1-ylmethyl]-8-hydroxyquinoline (herein identified as VK-28, Appendix IV).

131 (Withdrawn). The method according to claim 129, wherein said cerebrovascular disorder is stroke.

132 (Withdrawn). A method for the prevention and/or treatment of a neurodegenerative or cerebrovascular disease, condition or disorder, which comprises administering to an individual in need thereof an effective amount of a compound of claim 38.

133 (Withdrawn). The method according to claim 132, wherein said neurodegenerative disease is Parkinson's disease or Alzheimer's disease, and said compound is not the compound 5-[4-(2-hydroxyethyl)piperazin-1-ylmethyl]-8-hydroxyquinoline (herein identified as VK-28, Appendix IV).

134 (Withdrawn). The method according to claim 132, wherein said cerebrovascular disorder is stroke.

135 (Cancelled).

136 (Withdrawn). A method for treatment of skin damage associated with ageing and/or exposure to sunlight and/or UV light which comprises administering to an individual in need thereof an effective amount of a compound of claim 38.

137 (Cancelled).

138 (Withdrawn). A method for preservation of an organ intended for transplantation which comprises treating said organ ex-vivo with an effective amount of a compound of claim 38.



139 (Withdrawn). A method for the treatment and/or prevention of a disease, disorder or condition associated with iron overload and oxidative stress, excluding the prevention and/or treatment of a neurodegenerative disease, condition or disorder, which comprises administering to an individual in need thereof an effective amount of the compound 5-[4-(2-hydroxyethyl)piperazin-1-ylmethyl]-8-hydroxyquinoline (herein identified as VK-28, Appendix IV).

140 (Withdrawn). A method according to claim 139, wherein said disease, disorder or condition associated with iron overload and oxidative stress is selected from the group consisting of a neoplastic disease, hemochromatosis, thalassemia, a cardiovascular disease, diabetes, a inflammatory disorder, anthracycline cardiotoxicity, a viral infection, a protozoal infection, a yeast infection, retarding ageing, and prevention and/or treatment of skin ageing and skin protection against sunlight and/or UV light.